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Breaks in The Elementary Classroom and Their Effect on Student Behavior

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Abstract

Inappropriate classroom behavior negatively impacts the academic success of all students in the class. Furthermore, recess research shows that recess is critical for diminishing inappropriate classroom behavior. This study focused on diminishing inappropriate classroom behavior through short, structured breaks during instructional minutes in the classroom. The researcher focused on three male second grade students and the displayed instances of inappropriate classroom behavior. The intervention consisted of short routine breaks (e.g., a short video or five minutes of free time). An A-B-A-B single-case design was used. Results of the study showed that structured breaks in the classroom does diminish inappropriate classroom behavior. In conclusion, implementing structured breaks in the classroom is a useful tool for maintaining efficient use of instructional minutes by diminishing inappropriate classroom behaviors.

Keywords: inappropriate vocalizations, out of seat, off task, brain breaks

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Breaks in the Elementary Classroom and their Effect on Student Behavior

Introduction

Inappropriate classroom behaviors affect the attention of not only those students who are exhibiting these behaviors, but also all other students in a classroom. Students need to be focused in order to learn. Research shows that students kept in confinement with less break time are more likely to exhibit inappropriate classroom behavior (Ridgway, Northrup, Larue, & Hightshoe, 2003). Recess is a crucial time for students to release energy and return to class ready to learn (Chang & Coward, 2015; Pellegrini, Huberty & Jones, 1995; Ridgway et al., 2003). Students who are not given recess time that is proportional to their time spent inside the classroom are more likely to resort to inappropriate behaviors, especially in the elementary grades (Ridgway et al., 2003). Educators know that recess is crucial to maintaining student engagement, however it is still unclear how structured break time inside the classroom can help students maintain a high level of focus in elementary school. The current research focused on structured breaks within an elementary school classroom. By implementing structured break time within the classroom, the researcher anticipates to find a functional relationship between structured breaks and high student focus and engagement.

Literature Review

Research has demonstrated that student success is greatly improved with attention to subject matter (Ehm, Kerner auch Koerner, Gawrilow, Hasselhorn & Schmiedek, 2016; Hill, 2013; Kilian, Hofer, Fries & Kuhnle, 2010). Specifically, as inappropriate classroom behavior in students diminishes, student attention and academic success increases. Inappropriate classroom behavior is behavioral conduct that decreases student focus and attention to learning in the classroom. The types of behavior included in the digression of student focus are: unwarranted

vocalizations, out of seat, and students off task (Ridgway et al., 2003). This distraction and digression of student focus affects the classroom atmosphere that is a central part of academic achievement.

To increase the level of academic achievement, it is essential to increase student attention. Research suggests that using methods that increase student engagement and attention lead to higher student learning (Fink, 2016). Research regarding attention and focus shows that inappropriate classroom behavior is linked to negative consequences in achievement (Kilian et al., 2010). This research study proposed that the more students are unfocused and engaging in off task behaviors, the more their academic achievement suffers (Kilian et al., 2010). Another study argues sitting in a chair for an extended period of time is a strenuous task for students (Mulrine, Prater, & Jenkins, 2008). Giving students the opportunity to mentally relax throughout a long lesson directly relates to research on student engagement and inappropriate classroom behaviors.

In order for students to be engaged and focused in class, they need to be active in class and not be sitting for a long period of time. This can be done through the use of brain breaks in the classroom. Brain breaks are any break that is given, whether guided or not, that allows the students a few minutes to relax and focus on something other than their school work. This can include guided workout videos, meditation, free time, and time to socialize with their peers.

Healthy play and an active lifestyle also increase attention in adults and children (Symons, Cinelli, James & Groff, 1997; Zygmunt-Filwalk & Bilello 2005). One study conducted by Symons and colleagues (1997) stated that participating in health risk behaviors, or behaviors that are detrimental to your health, are linked to negative outcomes in achievement. Health risks behaviors include unhealthy food choices or being sedentary for long periods of

time. These extended periods with little to no physical activity is similar to the expectations of students in the classroom. Furthermore, the aforementioned health risk behaviors are associated with negative outcomes such as higher dropout rates, inappropriate behavior at school, and decreased participation in school related activities such as homework (Symons et al., 1997). The need for prioritizing healthy choices and activities is paramount for elementary age students.

Healthy activities, including play, have been shown to have social and cognitive benefits. For example, Vygotsky (1978) studied social interaction and cognition and found that children benefit cognitively from social interaction and play. That is, children learn through play and having interactions with peers, which are main components of recess in educational settings. Furthermore, children who actively participate in recess demonstrated improvements in cognitive and social development (Zygmunt-Fillwalk & Bilello, 2005). Additionally, Zygmunt-Fillwalk and Bilello (2005) demonstrated that academic achievement improves even with less time being dedicated to academics due to recess. Similarly, Pellegrini and Smith (1993) indicated that recess is a positive predictor of cognitive development and positive classroom behavior. That is, recess helped children adapt successfully to both social and cognitive demands as well as to appropriately participate in the classroom setting (Pellegrini & Smith, 1993).

There is empirical research that suggests that recess decreases inappropriate behavior in the classroom (Ridgway et al., 2003; Mulrine et al., 2008). Ridgway and colleagues (2003) suggested that recess decreased levels of inappropriate behavior as a function of time in confinement in the classroom. This means that the more time children spend in the classroom the higher the levels of inappropriate behavior result. Furthermore, Ridgway and colleagues (2003) suggested that children need a break that is directly related to the amount of time they spend in the classroom. Mulrine and colleagues (2008) conducted a study with students with

Attention Deficit Hyperactivity Disorder (ADHD) and how to support those students academically through exercise. ADHD was defined as students who are continuously active and more frequently display bouts of hyperactive behavior and inattention as compared to their peers. Results indicated that the students with ADHD and their typically developing peers benefited from exercise throughout the day (Mulrine et al., 2008). That is, routine exercise lends itself to higher academic performance and reduced disruptive classroom behaviors (Mulrine et al., 2008). Some teachers and administrators may be apprehensive to forego seated instructional time for physical activity; yet, without the breaks teachers are likely to experience more disruptive classroom behavior and less time being able to instruct.

Physical activity is beneficial to students' academic achievement and has been shown to improve classroom behavior (Camahalan & Ipock, 2015; Mulrine et al. 2008; Ridgway et al., 2003). For example, physical activity breaks may promote less disruptive behavior and fidgeting (Camahalan & Ipock, 2015). Furthermore, Camahalan and Ipock (2015) found that the decrease in fidgeting led to a much calmer classroom; therefore, creating a more focused learning environment for all students. Another study by James-Burdumy et al. (2013) found that implementing a physical activity program named Playworks helped students' transition during class and maintain focus for longer periods of time. The program consists of helping students be active during recess and as a result the teachers found that students were more ready for class and had better behavior not only in the classroom but during playground time as well. American students are not the only students that benefit from recess. For example, students who attend elementary schools in Shanghai have recess for approximately 40% of their school day (Chang & Coward, 2015); however, Chang and Coward (2015) found that even with longer, unstructured

break times, these students are demonstrating higher levels of achievement than their American counterparts.

Similar to the Chang and Coward (2015), Hill (2013) found that the number of minutes of recess time compared to the number of minutes of instructional time had a direct impact on reading achievement scores. Increasing the amount of active minutes in the day for children has a direct effect on school achievement scores. Hill (2013) stated that behavior is an academic issue and adding recess in relation to the amount of minutes spent in a classroom directly affects student achievement. Despite recess historically being a staple in the education system, research indicates that more schools are moving away from breaks and instead adding more instructional time during the day (Ridgway et al., 2003). This is likely to be counterproductive as the research demonstrates that more frequent breaks and ample recess time is a necessity to diminish inappropriate behavior and increase student focus (Camahalan & Ipock, 2015; Mulrine et al. 2008; Pellegrini et al., 1995; Ridgway et al., 2003). This means that the longer the child is in class the higher their levels of inattention and inappropriate behavior increases, particularly with male students.

Additional research that abounds from studying Japanese and Taiwanese schools indicates that in order to maintain high levels of attention, work has to be distributed evenly throughout the day (Chang and Coward, 2015). In other words, more frequent breaks are required to maintain focus and diminish inappropriate behavior. These research studies administered by Ridgway and colleagues (2003), Pellegrini and colleagues (1995) and Chang and Coward (2015) all conclude that schools need to study their recess policies in order to maintain student engagement throughout the day so as to utilize instructional time efficiently.

Optimizing recess can promote appropriate behavior in students and increase effective use of instructional time.

Finally, there have been a limited number of studies that have examined the impact of active classrooms. This includes studies on breaks in the classroom, i.e. what the researcher is calling brain breaks. These studies that do exist, however, have found that they tend to be more engaging and that students exhibit higher levels of appropriate behavior (Camahalan & Ipock, 2015; Mulrine et al, 2008; Wadsworth, Robinson, Beckham & Webster, 2012). The researchers also found that students were more productive and calm during their work when given the opportunity to take physical activity breaks during instructional time. Additionally, a study conducted in a preschool classroom also found that frequent activity breaks helped students with transitions and attentiveness (Wadsworth et al., 2012). Although some research has been conducted, more information is needed to determine if an active classroom reduces inappropriate classroom behavior and leads to higher levels of student engagement and academic achievement.

Method

Purpose

The purpose of this study was to examine how short mental breaks (i.e., free time, a guided exercise video, meditation) in the classroom affect inappropriate classroom behavior. Studies show that having physical activity increases student levels of attention (Pellegrini et al., 1995; Ridgway et al., 2003;), yet it is unclear how structured breaks in the classroom affect student attentiveness.

Research Question

Do structured brain breaks during a Language Arts lesson decrease inappropriate classroom behavior in second grade students?

Hypothesis

Research shows that recess increases student attention regardless of activity level (Mulrine et al., 2008; Pellegrini et al., 1995; Ridgway et al., 2003). Based on the research that recess increases student attention it is hypothesized that adding scheduled breaks during lessons will decrease inappropriate classroom behavior in second grade students.

Research Design

The study was a single-case A-B-A-B design. Students were observed in 10-minute intervals. Inappropriate classroom behavior was recorded using frequency counts during 10-minute intervals. Observers were focused on three students' inappropriate classroom behaviors. The study was conducted over a four-day period during the second grade class Language Arts 120 minute morning block. Each baseline and intervention was given on separate days. During the baseline the observers recorded each instance of inappropriate classroom behavior of the three students in separate 10-minute intervals. These same behaviors were also recorded using frequency counts every 10 minutes during the intervention period. The intervention was scheduled brain breaks given every 20 minutes. In the Ridgway and colleagues (2003) study the intervention was a scheduled recess given to every student, not just the focus student, at a specific time on the days the intervention was taking place. This study was modeled after this intervention design and the researcher gave scheduled breaks at specific times during the Language Arts block to all students on intervention days.

Independent Variable. The independent variable was the scheduled brain breaks. These scheduled brain breaks were videos on the education website Go Noodle. The website offered a collection of short videos for young students. These videos included guided dancing,

meditation, guided exercise, and guided yoga. These videos were shown to the whole class every 20 minutes for duration of 5 minutes on the days when the intervention took place.

Dependent Variable. The dependent variable was inappropriate classroom behavior. Inappropriate classroom behavior was any behavior that distracted a student or multiple students from the lesson and the work they were supposed to be completing in class. For the purposes of this study the target behaviors were inappropriate vocalizations, out of seat, and off task (Ridgway 2003). Inappropriate vocalizations were defined as "any vocal noise or verbalization that was not preceded by the child's raised hand and acknowledgment by an adult" (Ridgway et al., 2003, p. 256). Out of seat was defined as a child's full body weight being totally removed from their chair (Ridgway et al., 2003). Students were considered off task and in need of redirection when they were looking away from instructional materials and needed prompting from the teacher to return to their work (Ridgway et al., 2003, p. 256). Prompting was measured as a student being redirected verbally by a teacher after being unfocused for one minute.

Setting & Participants

The school where the study took place was a public Kindergarten through 5th grade elementary school located in Central California. The school had close to 700 students and was 68% Hispanic, 19% white, and 13% all other ethnicities. Approximately 44% of the students were English Learners, and approximately 46% of the students participated in the free or reduced lunch program.

The study was conducted in a second grade structured English immersion classroom. A convenience sample was used and the three students were purposefully chosen based on the inappropriate classroom behavior they display during instructional time. The three students were chosen because the students consistently display the target behaviors (i.e., inappropriate

vocalizations, out of seat, and off task) according to teacher observation. The class had 23 students and the study focused on the behavior of three students. All students received the intervention as a whole class. To ensure confidentiality, all participants' names have been changed.

Student 1. Student 1 was an eight-year-old boy in second grade. He was Caucasian and did not participate in the school's free and reduced lunch program. Academically he performed on grade level. For the purpose of this study Student 1 was referred to as Tyler. Tyler presented with all three targeted behaviors regularly in the classroom setting. He was consistently is out of his seat, expressed himself with inappropriate vocalizations, and was off task. Tyler's behavior was detrimental to his learning and the learning of other students in his class.

Student 2. Student 2 was an eight-year-old boy in second grade. He was Asian American and did not participate in the school's free and reduced lunch program. Academically he performed above grade level. For the purpose of this study Student 2 was referred to as John. John also was a consistent disruption in the classroom setting. He was consistently out of his seat, used inappropriate vocalizations and was off task. His behavior caused others around him to be less successful and created many class time disruptions during lessons.

Student 3. Student 3 was a seven-year-old boy in second grade. He was Caucasian and did participate in the school's free and reduced lunch program. Academically he performed well below grade level. For the purpose of this study Student 3 was referred to as Shaun. Shaun exhibited all three targeted behaviors as well. Shaun was off task, out of his seat, and used inappropriate vocalizations daily in the classroom. This behavior caused Shaun to fall well below grade level as well as gave him less opportunity to learn and make up that learning deficit.

His behavior also distracted those around him and changed the classroom learning environment drastically.

Measures

Frequency counts were used in 10-minute intervals to measure and record the targeted inappropriate classroom behavior (i.e., inappropriate vocalizations, out of seat and off task). Ridgway and colleagues (2003) recorded inappropriate classroom behavior using frequency counts to measure the amount of times students exhibited the target behaviors during specific increments of time. The researcher used this same measure (see Appendix A) to record the targeted inappropriate behavior against blocks of time during the classroom's morning Language Arts block. The researchers used frequency counts measured against their specific unit of time, (i.e., in ten-minute increments), while they were observed inappropriate classroom behavior in students with a diagnosis of ADHD against peers in their own class without a diagnosis of ADHD. Each 10-minute interval was its own data point for each student.

Validity. The behaviors were identified and defined in the Ridgway and colleagues (2003) study on students with ADHD. The targeted behaviors are inappropriate vocalizations, students out of seat, and students off task (Ridgway et al., 2003). The second observer agreed what each behavior looked like and measured the same behavior. The second observer was trained by the researcher on the frequency counts and how to measure the behavior. The second observer practiced in the classroom how to monitor, assess, and measure the targeted behavior.

Reliability. Reliability was ensured by having a second observer recording frequency counts of behavior. The researcher and the second observer agreed on the targeted behaviors and the second observer was present 20% of the time recording the targeted behaviors thus ensuring

80% agreement. This inter-observer reliability established that the targeted behaviors were measured accurately and consistently according to the proposed procedures.

Intervention

The intervention was scheduled brain breaks, (i.e., short videos that allow the students a moment to refocus themselves before continuing a lesson). These brain breaks were implemented every 20 minutes throughout the morning Language Arts block. The Language Arts block started at 8 am. The teacher showed a short video during instruction every 20 minutes until the school wide recess break at 10:00 am. The classroom teacher paused the lesson, started a short, guided video, the students participated with the video and once the video was over the class resumed as normal with teacher instruction and student focus.

During this time the researcher and the second observer recorded student behavior during those 10-minute intervals using frequency counts. The researcher implemented the brain break intervention to look for a change in students' inappropriate classroom behavior. The researcher looked for a decrease in the targeted behaviors. A whole class, scheduled intervention was chosen based on the recess intervention from Ridgway and colleagues (2003).

Procedures

The study conducted by Ridgway and colleagues (2003) implemented recess as a whole class intervention based on establishing a baseline by observing students on days without recess. This study was modeled after the Ridgway et al. (2003) study. During the Ridgway and colleagues. (2003) study the intervention was implemented on separate days from the baseline to observe student behavior with and without a recess break, this study implemented brain breaks in a similar manner. The current intervention was implemented in a second grade classroom over a four-day period during the Language Arts block. The first day was used to establish a baseline

of behavior. The researcher and second observer used a tally sheet (see Appendix A) to record frequency counts of the target behavior every 10 minutes for the three focus students. During the intervention phase, the teacher taught the class as normal but every 20 minutes the teacher implemented the intervention and played a short video. The researcher and observer still used the tally sheet (see Appendix A) and recorded the frequency counts of the target behavior in the three focus students. The classroom returned to baseline the next morning to observe student behavior without the brain breaks. On the last day the classroom returned to the intervention phase and the teacher implemented the brain breaks every 20 minutes. The classroom teacher implemented the videos while the researcher and second observer recorded frequency counts on the tally sheet of the target behavior for the three focus students.

Data Collection

The researcher and a second observer collected data by marking on a tally sheet the amount of times the target behavior is observed for each focus student every 10 minutes. The two recorders watched for the target behavior, recorded every time the target behavior was observed, and repeated this every 10 minutes. The data collection occurred during the baseline and the intervention phases. The students moved from baseline to intervention as a whole class as a function of time (as was conducted in the Ridgway et al. study; 2003).

Fidelity

The second observer ensured fidelity to the study (see Appendix B). The second observer ensured that the targeted behaviors were measured as stated and that the intervention was implemented as planned. They were present 20% of the time and also collected data on the three focus students. Fidelity of implementation was 100%.

Ethical Considerations

When working with young children there were ethical considerations to remember. One of these considerations was that children need to learn and therefore the intervention had to be short and precise so the children could have as much time as necessary to be focused on their schoolwork. Another ethical consideration was that the intervention had to be appropriate for the age group. The intervention videos were prescreened for appropriateness for their skill and maturity level. Using videos from Go Noodle, a website that caters to elementary educators and their students, helped ensure that these videos were age and skill appropriate for second grade. The observations also needed to be conducted as unobtrusively as possible to get a true record of student behavior and so as to not interrupt their learning.

Validity threats. One threat to validity was student behavior could change because there were observers in their classroom. The classroom teacher recorded behavior but the second observer could prove to be either a distraction or cause the students to behave better because they are being watched. This change in behavior is known as the Hawthorne Effect. The Hawthorne Effect is any change that is made produces a positive result because the students know they are being watched (McCarney et al, 2007). This was addressed by the observer being a person the students recognized and were familiar with along with the observer being as unobtrusive as possible while recording the frequency counts. Another threat to validity was that student behavior could change based on other influences such as changes at home, how they were feeling, or the difficulty of the task at hand. This was addressed by ensuring the lesson was scaffolded for the varying degrees of skill level, thus ensuring the task was doable for each student.

Personal bias was another threat to validity. As the classroom teacher and the researcher were the same person the researcher must take into consideration their own bias toward these students, especially because students with focus issues can prove to be a challenge to teachers. The researcher acknowledged these biases and while recording frequency counts only recorded the frequency counts instead of correcting behavior during the baseline and intervention phases. This was also addressed by having a second unbiased recorder to ensure validity.

Social Validity

At the completion of the study, 2 teachers completed a four-point Likert scale (i.e., 1 = strongly disagree to 4 = strongly agree) social validity questionnaire (see Appendix C). The questionnaire, adapted from Berger, Manston and Ingersoll (2016), consisted of nine questions designed to understand the perceived usefulness, significance and satisfaction with the implemented intervention (Kennedy, 2005). Participant responses were kept confidential and descriptive statistics were conducted to gain insights regarding the intervention. Results from the social validity questionnaire showed the team of second grade teachers who took it found that the intervention was useful for students and would recommend it in other classrooms with similar students.

Data Analysis

The data were analyzed as a function of time. The data were collected in 10-minute increments during the baseline and the intervention phase of the study. The Ridgway and colleagues (2003) study of students with and without a diagnosis of ADHD observed students in 10-minute increments and recorded frequency counts of the inappropriate behavior defined in their study. These frequency counts and data points were then analyzed by creating one data point for each 10-minute cycle and graphing it as a function of time in confinement. This form

of data analysis was used in this study as well. The frequency counts in the 10-minute cycles were recorded as one data point against time in confinement to establish the baseline and intervention behavior trends. The researcher conducted visual analysis of the data to determine trends, stability, and immediacy of change to see if there is a functional relationship between brain breaks and a decrease in inappropriate classroom behavior.

Results

Tyler's results are depicted in Figure 1 where the x-axis is the periods of time and the y-axis is the counts of inappropriate student behavior. During the first baseline period Tyler had a range of 4 to 9 and a mean of 7.08. During the first intervention phase Tyler had a range of 3 to 6 and a mean of 3.5. The second baseline phase had a range of 5 to 8, mean of 6. The last intervention period had a range of 2 to 5 and a mean of 3.

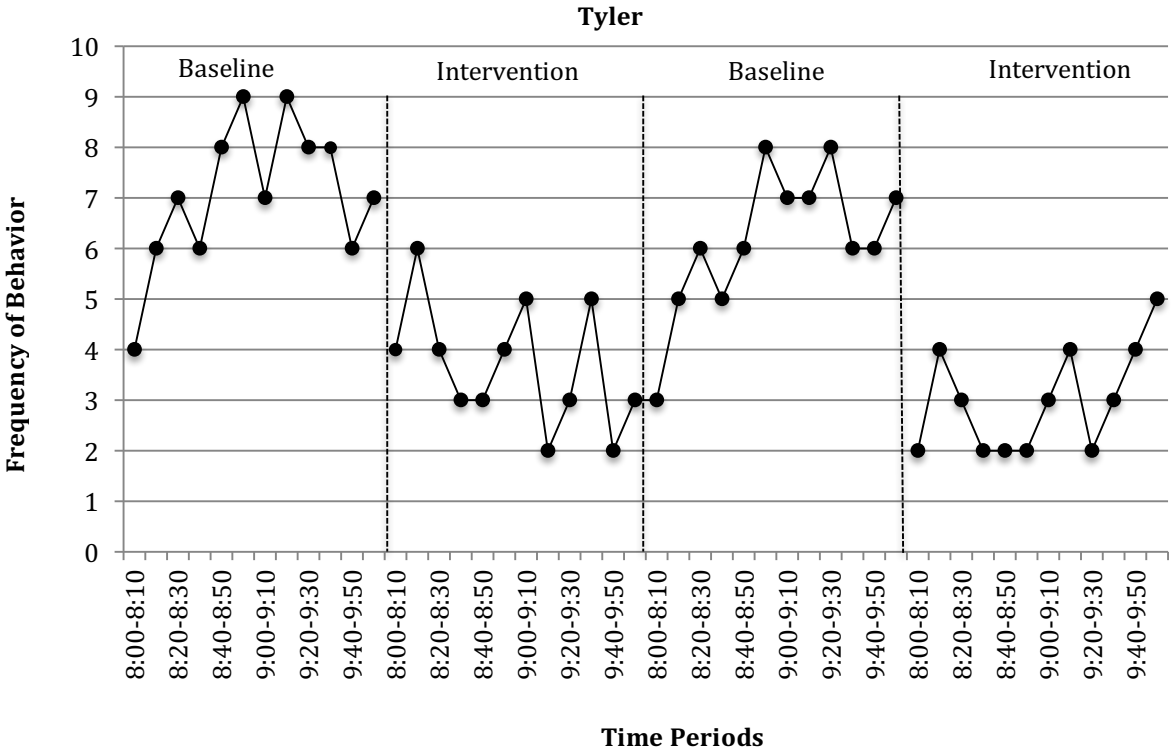

Figure 1. Frequency of Tyler's inappropriate behaviors.

John, also saw a decrease in inappropriate classroom behaviors when the intervention was implemented (see Figure 2). During the first baseline John had a range of 5 to 9 with a mean of 7. The first intervention saw a range of 3 to 5 with a mean of 4. The second baseline phase had a range of 4 to 9 with a mean of 7. The last intervention phase had a range of 2 to 7 and a mean of 4.5.

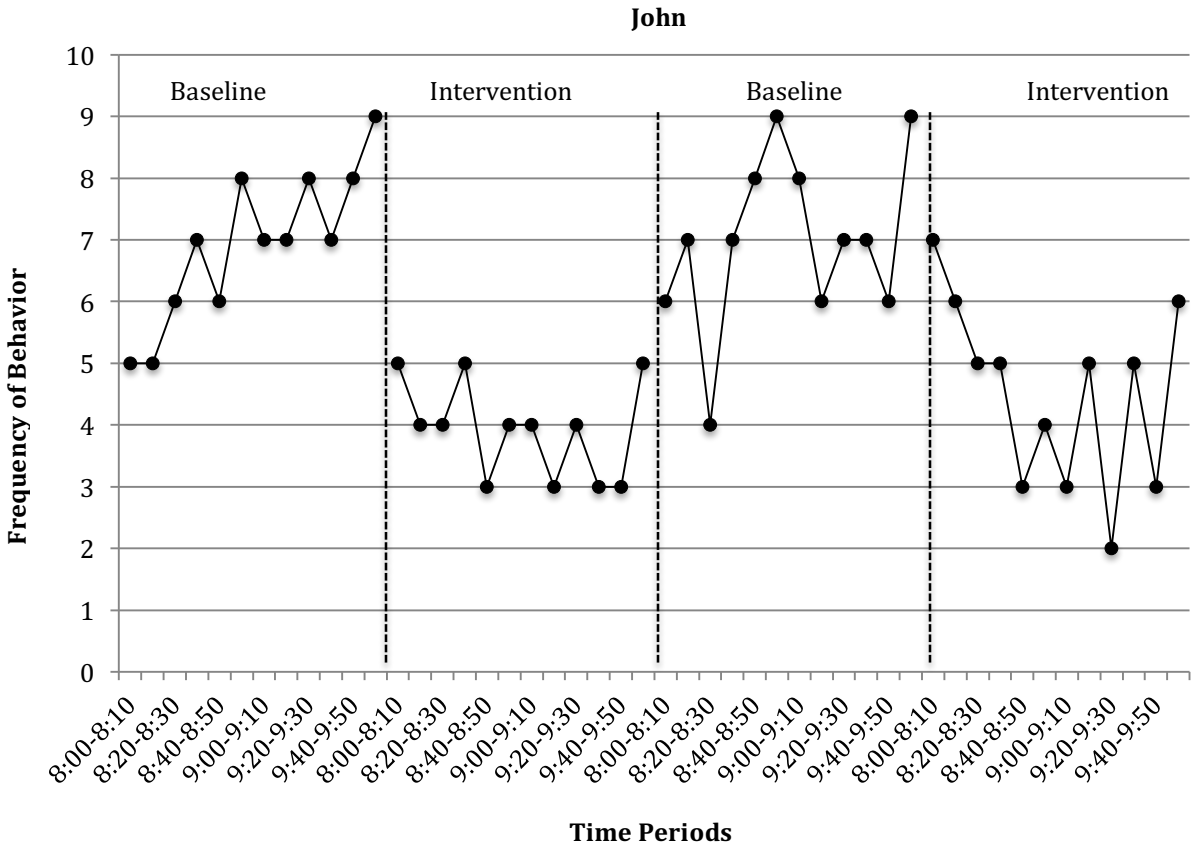

Figure 2. Frequency of John's inappropriate behaviors.

Shaun, also experienced a decrease in inappropriate behavior when the intervention of brain breaks was implemented in the classroom (see Figure 3). During the first baseline phase Shaun had a range of 5 to 9 with a mean of 6.8. During the first intervention phase Shaun had a range of 2 to 7 and a mean of 4.3. During the second baseline period Shaun had a range of 4 to 8 and a mean of 6.17. During the last intervention phase the range was 1 to 5 with a mean of 3.67.

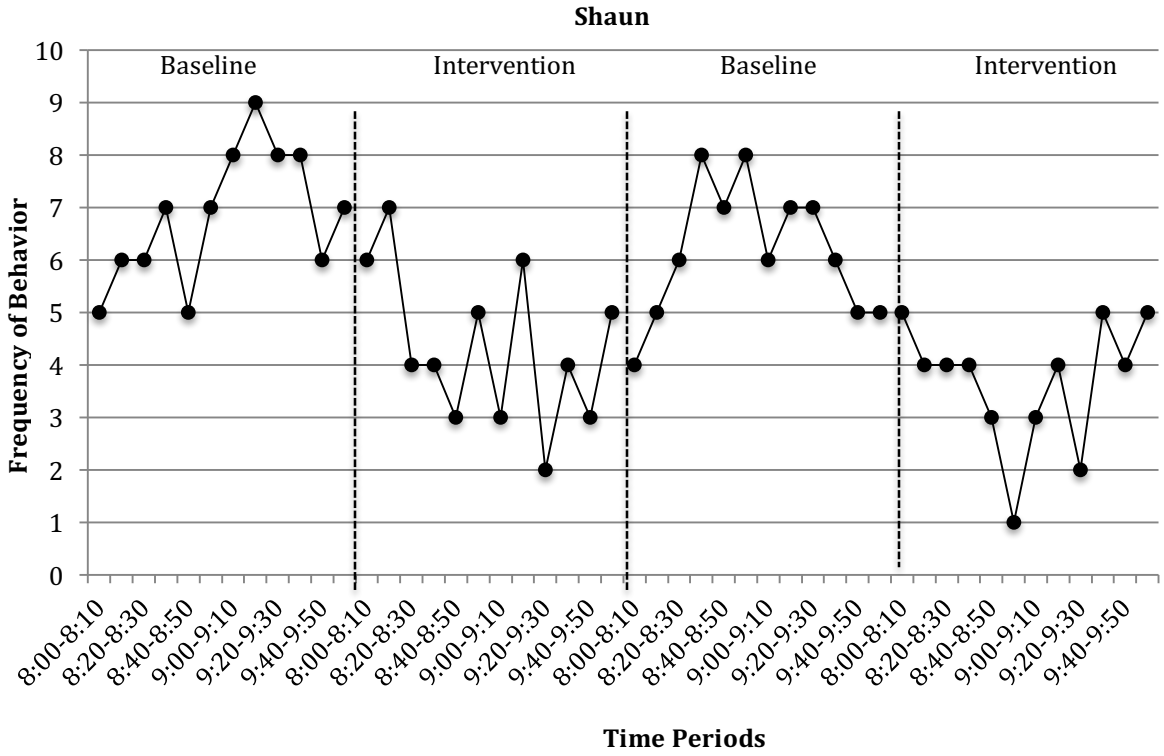

Figure 3. Frequency of Shaun's inappropriate behaviors.

Discussion

The purpose of this study was to determine if there was a relationship between breaks in the classroom and diminished inappropriate classroom behavior. Analysis of the results indicate mixed results from all three participants. The percentage of non-overlapping data for Tyler was 58%. The percentage of nonoverlapping data for John and Shaun was 58% and 67% respectively. These results indicate that the intervention was minimally effective for all three participants. However, the research did show a decrease in inappropriate classroom behavior (i.e., unwarranted vocalizations, out of seat and off task behaviors) for all three students and the hypothesis is partially accepted.

All three participants responded to the intervention. All three students had similar baseline patterns and similar intervention patterns, however Tyler responded the most to the

intervention. Pellegrini and colleagues (1995) along with Ridgway and colleagues (2003) hypothesized that recess and breaks have an impact on classroom behavior. The researchers theorized that students participating in recess and exercise experience a decrease in inappropriate classroom behaviors. Pellegrini and colleagues (1995) commented however that students that participated in vigorous and exciting playground activities did not always see a decrease in inappropriate classroom behaviors following the recess break. The current research noticed that after more vigorous guided videos such as dance and exercise videos the behavior decrease was not as significant unlike after more peaceful videos such as yoga and meditation. Ridgway and colleagues (2003) found that the longer students were kept in confinement, e.g., in the classroom, the instances of inappropriate classroom behaviors increased. This was evident in the current research as well. Toward the end of the intervention periods for all three participants the instances of inappropriate classroom behavior increased. The longer the participating students were kept in confinement, the higher the instances of inappropriate behavior. At the beginning of the school day, before the first videos were implemented for the day, student behavior was similar during both the baseline and intervention phases. The study was conducted during a week with heavy rains and therefore the students were kept inside during the weekend and multiple days in a row in the classroom. The fact that the students did not have their typical routine may have been a confounding variable and impacted the data on student behavior.

This would align with research conducted by Ridgway and colleagues (2003), Kilian and colleagues (2010), Mulrine and colleagues (2008), Pellegrini and colleagues(1995), and Wadsworth and colleagues (2012). These researchers hypothesized that recess and exercise diminishes inappropriate classroom behaviors and found evidence that their original hypothesis was correct. The research conducted in the current study adds to this literature. Adding short,

guided breaks, named “brain breaks” did support the original hypothesis and found a functional relationship between breaks and classroom behavior.

The current research was modeled after the Ridgway and colleagues (2003) study. The Ridgway and colleagues (2003) study found a relationship between recess timing and inappropriate classroom behaviors. The researchers determined that the longer children are kept in confinement (i.e., in a classroom) the higher instances of inappropriate classroom behavior. The current research adds to this literature. This study of brain breaks and classroom behavior found that without breaks students have higher instances of inappropriate classroom behavior. Once the breaks were implemented the inappropriate behavior diminished, establishing a functional relationship between breaks and classroom behavior.

Limitations and Directions for Future Research

Even though this study was successful there were limitations. One limitation was a convenience sample was used. This is a limitation because in order to get the most unbiased sample a random sample would need to be used. The sample is also a limitation because of the limited number of participants. A larger number of participants studied would produce more reliable result. Future research should include a random sample of students in the same grade instead of just students previously recorded with high instances of inappropriate classroom behavior. Further studies should also include larger numbers of participants in different schools/areas and grade levels, not just a single second grade classroom in the Central California area.

Further research into this field will add to the current literature and find relationships between breaks and classroom behavior. Next steps would be to focus on the relationship between breaks in the classroom and educational achievement (Camahalan & Hill, 2013; Ehm et

al., 2016; Ipock, 2015; Pellegrini & Smith, 1993). This further research would add to the literature on breaks and recess and how this affects student behavior and academic growth.

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Appendix A
Data Collection Sheet

Baseline

Student												
Inappropriate Vocalizations												
Out of Seat												
Off Task												
	8:00-8:10	8:10 - 8:20	8:20-8:30	8:30-8:40	8:40-8:50	8:50-9:00	9:00-9:10	9:10-9:20	9:20-9:30	9:30-9:40	9:40-9:50	9:50-10:00

Appendix B

Fidelity Checklist

Use the following checklist to ensure consistent application of the independent variable (i.e. Go Noodle videos) during intervention phase.

- ✓ The researcher implemented a Go Noodle video every 20 minutes for duration of 5 minutes.
- ✓ The researcher continued lesson as planned once video was complete.
- ✓ The researcher continued this pattern for the entire Language Arts block.

Appendix C

Social Validity Questionnaire

Questions:		1 Strongly disagree	2 Disagree	3 Agree	4 Strongly Agree
1	This treatment was effective				
2	I found this treatment acceptable for increasing the student's skills				
3	Using the treatment improved skills across multiple contexts (home, classroom, community)				
4	I think the student's skills would remain at an improved level even after the treatment ends				
5	This treatment improved family functioning				
6	This treatment quickly improved the student's skills				
7	I would be willing to carry out this treatment myself if I wanted to increase the student's skills				
8	I would suggest the use of this treatment to other individuals				
9	This treatment decreased the level of stress experienced by the student's family				